

# ENVIRONMENTAL BUSINESS JOURNAL®

Strategic Information for a Changing Industry

REPRINT

Emerging Technology & the Environmental Industry Environmental Business International Inc.

## TETRA TECH & 'LEADING WITH SCIENCE'

**Tetra Tech** is a leading provider of high-end consulting and engineering services for projects worldwide. With 20,000 associates working together in 450 offices, Tetra Tech provides clear solutions to complex problems in water, environment, infrastructure, resource management, energy, and international development. We are Leading with Science® to provide sustainable and resilient solutions for our clients.

*Leslie L. Shoemaker was appointed President of Tetra Tech on October 1, 2019 and leads its strategic planning and operating segments. Dr. Shoemaker joined Tetra Tech 28 years ago, and has held increasingly responsible positions including project manager, chief strategy officer, and executive vice president and business segment president. She has been instrumental in leading Tetra Tech's growth strategies that have supported Tetra Tech's expansion over the past decade from a U.S. business to a global organization. She also serves as Tetra Tech's Chief Sustainability Officer, with a commitment to promoting sustainability in its projects and operations. Dr. Shoemaker has been a strong advocate of its Leading with Science® approach throughout her career at Tetra Tech. Her technical specialty is in the development of analytical systems and model applications for watershed management and integrated water management solutions that incorporate water reuse and stormwater harvesting. She has led large-scale watershed studies, managed the development of advanced analytics and modeling tools, and published in the field of watershed systems, optimization, and decision analysis. Dr. Shoemaker was principal investigator for the development of first-of-a-kind models that have advanced the science of water management (i.e., SUSTAIN and GWLF). Dr. Shoemaker holds a BA in Mathematics from Hamilton College, an MEng from Cornell University, and a PhD in Agricultural Engineering from the University of Maryland.*

### **EBJ: How does Innovation and new technologies fit within Tetra Tech's strategy, which focuses on "Leading with Science"?**

Shoemaker: As we enter 2020, Tetra Tech has tremendous opportunities to address some of today's most challenging problems such as adapting to a changing climate, and providing essential water, environment and infrastructure services. Our scientists and engineers build on a legacy of analytics, empowered by today's most advanced technology. Our highly talented professionals link deep subject matter expertise with technology to support our clients' needs. Our company has been built on Leading with Science® since it was founded more than 50 years ago. The applied research we conducted early on has led to the differentiated services in water and the environment that we offer our clients today.

Tetra Tech's growth strategy includes expansion to new geographies and markets. As we grow, we scale up our technology paired with domain knowledge that is embedded in the delivery of our services across the 70,000 projects we perform each year. We call this technology Tetra Tech Delta. The Tetra Tech Delta includes software solutions, innovation hubs for collaboration, an inventors' program to identify and develop patent submissions, and a technology transfer program to disseminate Tetra Tech Delta information worldwide.

### **EBJ: How are you using technology differently in different countries?**

Shoemaker: The technologies we use are tailored to the specific conditions to ensure an optimal experience. We partner our local experts with technical specialists so that technology applications are adapted to local needs as well as specific condi-

tions unique to each project and region. For example, we are seeing rapid adoption of mobile phone technology in developing countries. Building on this capacity, Tetra Tech is working with the **U.S. Agency for International Development** (USAID) on their Oceans and Fisheries Partnership (Oceans) project to reduce illegal fishing and improve sustainability in Southeast Asia. We developed the electronic Catch Documentation and Traceability (eCDT) system to track the fishing process from bait-to-plate. Using a combination of GPS, QR codes, and mobile phone technology, each user electronically documents the seafood as it moves through the supply chain to ensure the fish was legally caught. To date, the eCDT system has traced more than 2,000 metric tons of fish and improved the management of more than 100 million hectares of these ecosystems.

### **EBJ: Can you comment on any barriers to the adoption of technology within the industry? And how are things changing?**

Shoemaker: Many of our client's partner with us to test new ideas and technology to address specific operational and business needs. For example, Tetra Tech has developed tools to manage water systems more efficiently to protect water quality in receiving waters. Our Csoft® tool is an innovative real-time control software solution to more efficiently and sustainably manage sewer networks in real time based on rain forecasts and sensor readings. Today, this solution can be applied more rapidly and with lower cost, since the

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sensors are less expensive, and we have a track record of over a decade of experience in multiple locations to build upon. We work closely with our clients to develop, test, pilot and implement new technology into their operations.

Another change we're seeing in the industry is how information is interpreted and delivered. Our clients want the information displayed visually on dashboards that highlight the key metrics needed for them to make decisions. Dashboard design and associated advanced analytics are

an excellent example of how Tetra Tech brings together domain experts and IT professionals so we can integrate technically-grounded interpretive analysis with high-end cloud data management technology, including in some cases artificial intelligence and machine learning. For example, we provide our disaster response and recovery client running updates on project progress, locations of activities, and condition assessment. This level of information access is essential to addressing client needs in these critical projects. □

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